



CLEARING PERMIT

Granted under section 51E of the Environmental Protection Act 1986

PERMIT DETAILS

Area Permit Number: 3483/1
File Number: DEC13907
Duration of Permit: From 11 March 2010 to 11 March 2012

PERMIT HOLDER

David Ross Warman

LAND ON WHICH CLEARING IS TO BE DONE

Lot 3000 on Plan 44089, Roebuck

AUTHORISED ACTIVITY

Clearing of up to 10 hectares of native vegetation within the area hatched yellow on attached Plan 3483/1.

CONDITIONS

1. Authorised activity

The Permit Holder shall not clear more than 10 hectares of native vegetation, within the area hatched yellow on attached Plan 3483/1.

2. Wind erosion management

- (a) The Permit Holder shall not clear native vegetation under condition 1 on this permit unless agricultural development begins within 2 months of the clearing being undertaken.
- (b) The Permit Holder must retain *mature tree(s)* within the area of clearing authorised under condition 1 of this Permit.

Definitions

The following meanings are given to terms used in this Permit:

mature tree(s) means trees that have a diameter, at average adult human chest height, of greater than 70cm

A handwritten signature in cursive script, appearing to read "Keith Claymore".

Keith Claymore
A/ASSISTANT DIRECTOR
NATURE CONSERVATION DIVISION

*Officer delegated under Section 20
of the Environmental Protection Act 1986*

11 February 2010

Plan 3483/1



LEGEND

Clearing Instruments

- Areas Applied to Clear
- Areas Subject to Conditions
- Areas Approved to Clear

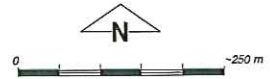
Broome 50cm Orthomosaic - Landgate 2000

Cadastra for labelling

- Freehold
- Crown Reserve
- State Forest / Timber Reserve
- Marine Park
- Crown Lease
- (cont)

Lease / Reserve

- Lease on State Forest / Timber Reserve
- Public Roads
- Unallocated Crown Land
- Water



Scale 1:8635
(Approximate when reproduced at A4)

Geocentric Datum Australia 1994

Note: the data in this map have not been projected. This may result in geometric distortion or measurement inaccuracies.

K Claymore Date *1/2/10*
K Claymore

Officer with delegated authority under Section 20 of the Environmental Protection Act 1985

Information derived from this map should be confirmed with the data custodian acknowledged by the agency acronym in the legend.



Department of Environment and Conservation

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1. Application details

1.1. Permit application details

Permit application No.: 3483/1
Permit type: Area Permit

1.2. Proponent details

Proponent's name: David Ross Warman

1.3. Property details

Property: LOT 3000 ON PLAN 44089 (Lot No. 3000 BROOME ROEBUCK 6725)
Local Government Area:
Colloquial name:

1.4. Application

Clearing Area (ha)	No. Trees	Method of Clearing	For the purpose of:
10		Mechanical Removal	Miscellaneous

2. Site Information

2.1. Existing environment and information

2.1.1. Description of the native vegetation under application

Vegetation Description	Clearing Description	Vegetation Condition	Comment
The vegetation is mapped as 'Shrublands, pindan; Acacia tumida shrubland with grey box & cabbage gum medium woodland over ribbon grass & curly spinifex' (Shepherd 2007)	10 hectares of intact native vegetation viewed through aerial imagery. The applicant has applied for 10 hectares but has the intention to retain all mature trees within Lot 3000 and to keep a 20 metre buffer of native vegetation around the perimeter of the property.	Excellent: Vegetation structure intact; disturbance affecting individual species, weeds non-aggressive (Keighery 1994)	Condition of vegetation confirmed through aerial imagery (Broome 50cm Orthomosaic - Landgate 2000).

3. Assessment of application against clearing principles

(a) Native vegetation should not be cleared if it comprises a high level of biological diversity.

Comments **Proposal is not likely to be at variance to this Principle**

The applied area is 10 hectares of vegetation within a well vegetated local area. The vegetation appears to be in 'Very Good' to 'Excellent' (Keighery 1994) condition. Three priority listed flora species (*Glycine pindanica*, *Corymbia paractia* and *Tetragonia coronata*) are known from the local area and there may be some potential for the priority species *Glycine pindanica* to occur within the applied area based on habitat types present. The vegetation within the applied area is mapped as 'Shrublands, pindan; Acacia tumida shrubland with grey box and cabbage gum medium woodland over ribbon grass and curly spinifex' (Hopkins et al 2001), which is an extremely widespread vegetation unit. *Glycine pindanica* is known from multiple locations in sufficient numbers to suggest that even if it were to occur within the applied area, its conservation status would not be adversely affected by the taking of plants.

The vegetation within the applied area is unlikely to be highly diverse and does not contain any environmental features which would make it an area of outstanding biodiversity. The flora and fauna of the applied area is similar and contiguous with the surrounding local area. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:
Keighery (1994)
DEC (2010)
Hopkins et al (2001)
ANCA (1996)
EPA (2000)

GIS Databases:

- Broome 50cm Orthomosaic - Landgate 2000
- DEC Tenure - DEC 2009
- SAC Biodatasets - accessed 2009-2010
- Declared Rare and Priority Flora List - DEC 2009
- Pre European Vegetation - DA 01/01
- Clearing Regulations, Environmentally Sensitive Areas 2009
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(b) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of, a significant habitat for fauna indigenous to Western Australia.

Comments Proposal is not likely to be at variance to this Principle

A number of threatened and priority birds and mammals are found within the local area (20 km radius). These include the following species listed as Vulnerable under the EPBC Act (Commonwealth of Australia 1999): Bilby (*Macrotis lagotis*), the Golden Bandicoot (*Isodon auratus auratus*) and the Australian Painted Snipe (*Rostratula benghalensis australis*). The following priority 4 species are recorded: Chestnut-backed Button-quail (*Turnix castanota magnifica*), Eastern Curlew (*Numenius madagascariensis*), Flock Bronzewing (*Phaps histrionica*), and Pictorella Mannikin (*Heteromunia pectoralis*).

The 10 hectare applied area remains intact and at least in 'Very Good' (Keighery 1994) condition and therefore would provide habitat for native fauna and may provide habitat for threatened and/or priority fauna. The vegetation within the applied area however is contiguous with vegetation in the local area and it is unlikely that the conservation status of any fauna species would be detrimentally affected by the proposed clearing. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:

Commonwealth of Australia EPBC Act (1999)
Keighery (1994)

GIS databases:

- Broome 50cm Orthomosaic - Landgate 2000
- DEC Tenure- DEC 2009
- SAC Biodatasets - accessed 2009-2010
- Hydrography linear - DOW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06

(c) Native vegetation should not be cleared if it includes, or is necessary for the continued existence of, rare flora.

Comments Proposal is not likely to be at variance to this Principle

No rare flora have been recorded within the local area (20 km radius). The applied area is 10 hectares of vegetation within a well vegetated local area. The vegetation within the applied area is mapped as 'Shrublands, pindan; Acacia tumida shrubland with grey box & cabbage gum medium woodland over ribbon grass & curly spinifex' (Hopkins et al 2001), which is a common and widespread vegetation unit within the region.

The vegetation within the applied area is unlikely to be highly diverse based on the mapped soil and vegetation units and does not contain any environmental features which would make it an area of outstanding biodiversity. The flora of the applied area is similar and contiguous with the surrounding local area. Therefore the proposed clearing is not likely to be at variance to this principle.

Methodology References:

WA Herbarium (2009)
Hopkins et al (2001)

GIS databases:

- Broome 50cm Orthomosaic - Landgate 2000
- Declared Rare and Priority Flora List - DEC 2009
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 2009
- Soils, Statewide DA 11/99

(d) Native vegetation should not be cleared if it comprises the whole or a part of, or is necessary for the maintenance of a threatened ecological community.

Comments Proposal is not likely to be at variance to this Principle

A Vulnerable listed TEC 'Roebuck Bay mudflats - Species-rich faunal community of the intertidal mudflats of Roebuck Bay' is known from the local area (20 km radius). The proposed clearing is almost 3 km from the edge of the TEC's buffer. The vegetation within the applied area is Pindan and shrublands and has no affinities with the Roebuck Bay mudflats.

The proposed clearing is not likely to affect the TEC or its buffer and as such is found to be not likely to be at variance to this principle.

Methodology References:
TEC Database (Accessed Dec 2009)

GIS Databases:
- Broome 50cm Orthomosaic - Landgate 2000
- SAC Biodatasets - accessed Dec 2009
- Pre European Vegetation - DA 01/01
- Soils, Statewide DA 11/99

(e) Native vegetation should not be cleared if it is significant as a remnant of native vegetation in an area that has been extensively cleared.

Comments **Proposal is not likely to be at variance to this Principle**
The national objectives and targets for biodiversity conservation in Australia has a target to prevent clearance of ecological communities with an extent below 30 per cent of that present pre-1750, below which species loss appears to accelerate exponentially at an ecosystem level (Commonwealth of Australia 2001, EPA 2000).

The vegetation types under application retain more than this 30% threshold level with 99% cover within the local area (20 km radius), the Shire (Broome) and the Bioregion (Dampierland). As such, the proposed clearing is not likely to be at variance with this principle.

Methodology References:
ANZECC (2000)
Commonwealth of Australia (2001)
EPA (2000)
Hopkins et al. (2001)
Shepherd (2007)
Shepherd et al (2001)

GIS Databases:
- Broome 50cm Orthomosaic - Landgate 2000
- Interim Biogeographic Regionalisation of Australia - EA 18/10/00
- Local Government Authorities - DLI 8/07/04
- Pre European Vegetation - DA 01/01
- SAC Biodatasets - accessed 2009-2010
- NLWRA, Current Extent of Native Vegetation 20 Jan 2001

(f) Native vegetation should not be cleared if it is growing in, or in association with, an environment associated with a watercourse or wetland.

Comments **Proposal is not likely to be at variance to this Principle**
No significant watercourses are mapped within the applied area or within the local area (20 km radius). One significant wetland, Roebuck Bay, occurs approximately 16 km from the applied area.

Given the distance of the applied clearing area to Roebuck Bay and the highly vegetated surrounding area, the proposed clearing is not likely to have any significant impact on the Bay. Therefore the clearing as proposed is not likely to be at variance to this principle.

Methodology GIS Databases:
- Broome 50cm Orthomosaic - Landgate 2000
- ANCA wetlands - Environment Australia 26/3/99
- DEC Managed Lands and Waters - DEC 2009
- EPP Lakes Policy Area - DEP 14/05/97
- Clearing Regulations, Environmentally Sensitive Areas 2009
- Hydrography linear - DoW 13/7/06
- Hydrography linear (hierarchy) - DoW 13/7/06
- Ramsar wetlands - DEC 03

(g) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause appreciable land degradation.

Comments **Proposal may be at variance to this Principle**
The proposed 10 hectares of clearing is within a local (20 km radius) area, which remains highly vegetated. The soils of the applied area are mapped as 'sand plain with longitudinal sand dunes and some active drainage-

ways with chief soils being red earthy sands associated with soils on the plains, with dunes and hummocks of red sands. Some soils occur in lower sites often with a heavy surface layer of ferruginous gravel (Northcote et al 1968). The underlying geology is sedimentary rocks over extensive and deep aquifers and sand over sandstone.

There is potential for wind erosion but the area has low risk of salinity. Based on the soil type and underlying geology there appears to be low potential for water logging.

Given the highly vegetated nature of the local area and the physical characteristics of the local environment, the proposed clearing may present a risk of wind erosion and therefore a soil management (wind erosion) condition will be placed on the permit. The applicant has indicated his intention to retain mature trees with the applied area and an approximate 20 metre buffer around the perimeter.

Methodology References:
Northcote et al. (1968)

GIS databases:

- Average Annual Rainfall Isohyets - WRC 98
- Annual Evaporation Contours (Isopleths) - WRC 98
- Hydrogeology, statewide DOW 06
- Hydrographic catchments, catchments - DoW 07
- Hydrographic catchments, subcatchments - DoW 07
- Hydrography, linear - DOW 06
- Salinity Risk LM 25m - DOLA 00
- Soils, Statewide DA 99
- Topographic contours statewide - DOLA and ARMY 02
- Hydrogeology, Statewide 2002

(h) Native vegetation should not be cleared if the clearing of the vegetation is likely to have an impact on the environmental values of any adjacent or nearby conservation area.

Comments **Proposal is not likely to be at variance to this Principle**

Two conservation areas are known from the local area (20 km radius): Broome Bird Observatory, a C Class Reserve, which is 18.2 km south west of the applied area; and an un-named C Class Reserve for land management training purposes, 10.2 km west of the applied area.

Given the distance from the local conservation reserves and the high level of native vegetation remaining in the local area, the proposed clearing is not likely to be at variance to this principle.

Methodology GIS Databases:
- Broome 50cm Orthomosaic - Landgate 2000
- DEC Managed Lands and Waters - DEC 09
- Hydrography, linear - DOW 13/7/06
- Register of National Estate - Environment Australia, Australian and World Heritage Division Mar 02

(i) Native vegetation should not be cleared if the clearing of the vegetation is likely to cause deterioration in the quality of surface or underground water.

Comments **Proposal is not likely to be at variance to this Principle**

The 10 hectare applied area is within a highly vegetated local area which is within the Broome RIWI groundwater area, although not within a controlled catchment. The applicant has a current water licence and advice received from the Department of Water (DOW 2010) stated that the clearing of 10 hectares is unlikely to cause an impact to the groundwater resource.

Given the retention of large mature trees and a 20 metre buffer around the perimeter of the site, the proposed clearing is unlikely to result in deterioration to surface or groundwater and therefore not likely to be at variance to this principle.

Methodology References:
DOW (2010)

GIS Databases:

- Broome 50cm Orthomosaic - Landgate 2000
- Evapotranspiration Isopleths - WRC 98
- Groundwater Salinity Statewide DoW 06
- Hydrographic catchments, catchments - DoW 07
- Hydrographic catchments, subcatchments - DoW 07
- Hydrography, linear - DOW 06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 05

- RIWI Act, Groundwater Areas (DOW 00)
- Salinity Risk LM 25m - DOLA 00
- Topographic Contours, Statewide - DOLA 02

(j) Native vegetation should not be cleared if clearing the vegetation is likely to cause, or exacerbate, the incidence or intensity of flooding.

Comments Proposal is not likely to be at variance to this Principle

The proposed 10 ha of clearing is within an area which remains highly vegetated. The soils of the applied area are mapped as 'sand plain with longitudinal sand dunes and some active drainage-ways with chief soils being red earthy sands associated with soils on the plains, with dunes and hummocks of red sands. Some soils occur in lower sites often with a heavy surface layer of ferruginous gravel. The underlying geology is sedimentary rocks over extensive and deep aquifers and sand over sandstone (Northcoate et al 1968).

Based on the permeability of the soils and underlying geology there appears to be low potential for water logging both on and off site that would result in an increase in the incidence or intensity of flooding. Therefore the proposal is not likely to be at variance to this principle

Methodology References:

- Northcoate et al 1968

GIS Databases:

- Broome 50cm Orthomosaic - Landgate 2000
- Environmental Impact Assessments - EPA 07
- Evaporation Isoleths - WRC 98
- Hydrographic catchments, catchments - DoW 07
- Hydrographic catchments, subcatchments - DoW 07
- Hydrography, linear - DoW 06
- Mean Annual Rainfall Isohytes (1975 - 2003) - DEC 05
- Topographic Contours, Statewide - DOLA 02

Planning instrument, Native Title, Previous EPA decision or other matter.

Comments

The application for clearing (CPS3483/1) was initially for the purpose of agriculture, fire management and tourism. This purpose was subsequently amended to agriculture and fire management only. DEC had received advice from the Shire of Broome (Shire of Broome 2010) that under the Shire of Broome Town Planning Scheme No. 4, Lot 3000 Roebuck is zoned 'Rural Agricultural'. The Shire is currently processing a Scheme Amendment for 'Additional Uses' for tourist related activities. The Shire expects this to be finalised before the end of 2010 and therefore a permit could not be granted for the purpose of tourism given the zoning of the applied area. Once the scheme amendment goes through, the applicant will be required to submit a development application to establish a caravan park with the Shire.

The applied area is within a Rights in Water Irrigation Act 1914 area and advice from the Department of Water states that no objection is held to the proposed clearing (DOW 2010). The applicant has an existing water extraction licence for the purpose of agriculture (DOW 2010).

Previous EPA advice to the Shire of Broome (EPA 2009) stated that the proposed scheme amendment will not be assessed under Part IV Division 3 of the Environmental Protection Act 1986 and provided advice and recommendations. Advice and recommendations relevant to this application includes the retention of mature trees in uncleared portions of the site. The applicant has stated his intention to retain mature trees.

Methodology

References:

- EPA (2009)
- DOW (2010)
- Shire of Broome 2010

GIS databases:

- Cadastre - Landgate Dec 07
- Native Title Claims - LA 2/5/07
- RIWI Act, Groundwater Areas - DoW 13/07/06
- RIWI Act, Irrigation Districts - DoW 13/07/06
- Town Planning Scheme Zones - MFP 31/08/98
- Country Area Water Supply Act (Part IIA) Clearing Control Catchments 29/06/2006
- Aboriginal Sites of Significance DIA 26 April 2007
- Public Drinking Water Source Areas (PDWSAs) DOW 06

4. Assessor's comments

Comment

The application has been assessed against the clearing principles, planning instruments and other matters in accordance with s51O of the Environmental Protection Act 1986, and it is the assessor's recommendation that the proposed clearing may be at variance to Principle (g) and is not likely to be at variance to the remaining clearing principles.

5. References

- ANCA (1996) A Directory of Important Wetlands in Australia. Second Edition. Australian Nature Conservation Agency, Canberra, ACT.
- Commonwealth of Australia (2001) National Objectives and Targets for Biodiversity Conservation 2001–2005, Canberra, ACT.
- DEC (2010). Regional advice from DEC Kimberley Region. Department of Environment and Conservation, WA (TRIM DOC114451).
- DOW (2010). Advice regarding Lot 3000 on Plan 44089, Roebuck. Department of Water, WA (TRIM DOC116115).
- EPA (2000) Environmental protection of native vegetation in Western Australia. Clearing of native vegetation, with particular reference to the agricultural area. Position Statement No. 2. December 2000. Environmental Protection Authority, Western Australia.
- EPA (2009). Decision under Section 48A(1)(a). Advice and recommendations. Environmental Protection Authority (TRIM DOC110266).
- Hopkins, A.J.M., Beeston, G.R. and Harvey J.M. (2001) A database on the vegetation of Western Australia. Stage 1. CALMScience after J. S. Beard, late 1960's to early 1980's Vegetation Survey of Western Australia, UWA Press.
- Keighery, B.J. (1994) Bushland Plant Survey: A Guide to Plant Community Survey for the Community. Wildflower Society of WA (Inc). Nedlands, Western Australia.
- Northcote, K. H. with Beckmann G G, Bettenay E., Churchward H. M., van Dijk D. C., Dimmock G. M., Hubble G. D., Isbell R. F., McArthur W. M., Murtha G. G., Nicolls K. D., Paton T. R., Thompson C. H., Webb A. A. and Wright M. J. (1960-68): 'Atlas of Australian Soils, Sheets 1 to 10, with explanatory data'. CSIRO and Melbourne University Press: Melbourne.
- Shepherd, D.P. (2007). Adapted from: Shepherd, D.P., Beeston, G.R., and Hopkins, A.J.M. (2001), Native Vegetation in Western Australia. Technical Report 249. Department of Agriculture Western Australia, South Perth. Includes subsequent updates for 2006 from Vegetation Extent dataset ANZWA1050000124.
- Shire of Broome (2010). Planning advice regarding Lot 3000 on Plan 44089, Roebuck (TRIM DOC115717).
- Western Australian Herbarium (1998-2010). FloraBase The Western Australian Flora. Department of Environment and Conservation. <http://florabase.dec.wa.gov.au/> (Accessed December 2009).

6. Glossary

Term	Meaning
BCS	Biodiversity Coordination Section of DEC
CALM	Department of Conservation and Land Management (now BCS)
DAFWA	Department of Agriculture and Food
DEC	Department of Environment and Conservation
DEP	Department of Environmental Protection (now DEC)
DoE	Department of Environment (now DEC)
DMP	Department of Mines and Petroleum (ex DoIR)
DRF	Declared Rare Flora
EPP	Environmental Protection Policy
GIS	Geographical Information System
ha	Hectare (10,000 square metres)
TEC	Threatened Ecological Community
WRC	Water and Rivers Commission (now DEC)